

Excellence Through Research

# Health Services Research

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Advancing Veterans  
H e a l t h C a r e



Office of Research & Development

The Health Services Research and Development Service (HSR&D) is a program within the Veterans Health Administration's Office of Research and Development. HSR&D provides expertise in health services research, a field that examines the effects of organization, financing and management on a wide range of problems in health care delivery — quality of care, access, cost and patient outcomes. Its programs span the continuum of health care research and delivery, from basic research to the dissemination of research results, and ultimately to the application of these findings to clinical, managerial and policy decisions.

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Special Projects Office (152)  
VA Medical Center  
Perry Point, MD 21902  
VA FTS System: 700/956-5442  
Commercial: 410/642-1092  
Fax: 410/642-1095  
E-Mail: [long.laurel@forum.va.gov](mailto:long.laurel@forum.va.gov)

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Department of Veterans Affairs  
Veterans Health Administration  
Office of Research & Development  
Health Services Research & Development Service

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## Message from the Chief Research & Development Officer

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The Veterans Health Administration, one of the largest health care systems in the U.S., is undergoing a rapid metamorphosis as it embraces primary care, ambulatory care, and community-based care to enhance its effectiveness and efficiency as an integrated health care delivery system. These broad changes have created new opportunities to expand collaboration at the interface of health services research and health care delivery. VA Health Services Research and Development (HSR&D) is rising to meet these many challenges. The overarching objectives of HSR&D are first, improved quality of patient care, and second, increased efficiency of health care delivery. HSR&D continues to emphasize research that translates into improved health care for patients and systems efficiency for the VA. This document summarizes many recent achievements of VA investigators and Health Services Research and Development centers of excellence.

A recounting of these achievements is almost overwhelming in the scope and depth of the research activities. Consider the remarkable contributions of VA Health Services Research and Development to the delivery of health care to the elderly: Geriatric Evaluation and Management Units (GEM's they are!), Long Term Care, Home-based Care, Adult Day Health Care, use of Advanced Directives, and many other innovative research contributions. HSR&D supports research activities in many chronic diseases prevalent in our Veteran patients — Alzheimer's disease, cancer, cardiovascular diseases, diabetes, AIDS, and chronic lung disease. The VA Health Services research portfolio includes major findings concerning health care for patients with mental illnesses such as depression, major psychoses, and PTSD. Research in health care delivery for patients with substance abuse includes day hospital care, case management, social support strategies, and evaluation of patterns of health services use. HSR&D readily adopts a "systems perspective" when considering the many challenges facing VA's health care system. Research studies explore the dimensions of primary care, rural care delivery, "tele-medicine," technology assessment and dissemination, quality and cost of surgical care, oral health of veterans, and health economics.

This brief recounting of recent health services research achievements should make all of us proud. While proud of the many contributions research has made to improve the quality of Veterans' health care, we understand the need to find new answers to questions posed by the changing health care milieu, inside VA and outside. The VA Health Services Research Program brings tremendous intellectual capital to the challenges posed by the diseases and disabilities that effect our Veteran patients. As researchers, we relish future challenges, and the opportunities they provide to address the pressing health care issues of access, quality and cost of care.

**John R. Feussner, M.D.**  
Chief Research & Development Officer



## Introduction

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VA is one of America's largest managed care systems, providing health care to more than 3 million veterans every year. These veterans include a large aging population and growing numbers of minorities. Because of high health care costs and limited health care resources, VA must determine what does and does not work in health care delivery, so that it can provide appropriate, high-quality health care to veterans at a reasonable cost.

HSR&D plays a key role in the search for solutions to this challenge. Health services research examines the organization, financing, and management of health care and their effects on health care delivery, quality, cost, access, and outcomes. This area of research is unique in its focus on assessing the impact of changes in health care treatment and delivery in “real-life” settings, as opposed to the research laboratory. In a sense, health services research serves as a bridge between science and practice. It is an important tool for assessing and implementing change.

Through its core operations, HSR&D provides the infrastructure needed to conduct important research projects and supplies technical support, consultation, and information to assist VHA managers, clinicians, and policy makers.

HSR&D projects are conducted through several major programs:

- *HSR&D Field Programs.* These programs are organized around nine centers of excellence in targeted focus areas.
- *Service Directed Research.* These studies are undertaken in response to questions from Congress, the Secretary, the Under Secretary for Health, or other VA health care system managers.
- *Investigator Initiated Research Program.* This program encourages and supports studies proposed and conducted by individual VA researchers.
- *Management Decision and Research Center.* The MDRC links health services research and management research so that decision making is informed by research and research is responsive to managers' needs. It provides a health services research interface with VA leadership and management.
- *Developmental Project Program.* This program supports VA Medical Centers interested in developing or enhancing health services research capacity.
- *Fellowship Training Programs.* These programs, in collaboration with the Office of Academic Affiliations, provide pre- and post-doctoral fellowships to enhance recruitment and retention of HSR&D specialists in VA.
- *Career Development.* This program develops and sustains the health services research careers of clinician and non-clinician researchers by providing protected time to conduct research.



As medical research focuses on finding a cure or efficacious treatment, health services research focuses on how best to deliver that treatment, inform decision makers about the treatment, encourage physicians to adopt the new treatment as part of standard practice, and redesign the health care system to adapt and respond to an ever-changing patient population. These are challenges that must be addressed not only by VA, but by the health care industry as a whole. HSR&D is helping to meet those challenges.

HSR&D can ask the right questions, design studies to answer them, and translate the findings into the best practices for improving care. The following report provides highlights from the last 10 years of HSR&D's research portfolio. It is by no means exhaustive; rather, it is designed to provide an idea of HSR&D's achievements during the past decade and to provide a sense of where HSR&D's commitments for the future lie.

**Shirley Meehan, M.B.A., Ph.D**

Acting Director, Health Services Research & Development Service

## AGING

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*As the post World War II veteran population enters retirement, VA's senior veteran ranks are growing at a faster rate than the overall senior population. This means that by the year 2000, three of every five American men age 65 or older will be veterans, accounting for more than half of VA's patient population. VHA's transition to a patient-centered, managed care model likely will have the most impact on elderly veterans. HSR&D focuses on areas such as geriatric evaluation, rehabilitation and management, home based care, long term care, adult day health care, and health status and functional outcomes. Health services research in aging holds great potential for developing and improving acute and long-term geriatric care. As illustrated by the research projects described below, VA is uniquely positioned for success in health care practice for seniors.*

### **Visually impaired veterans receive better services**

An HSR&D evaluation of outpatient rehabilitation for older veterans with severe visual impairment improved clinical services for this group of patients. Beginning in 1991, new methods were implemented to establish veterans' rehabilitation goals — reducing the number of rehabilitation training sessions needed and improving patient outcomes. These improvements were buttressed by follow-up phone calls to encourage continued use of low-vision aids and new services for dementia patients with possible vision loss. These innovative techniques were disseminated to all VA facilities served by the Western Blind Rehabilitation Center.

*Lovett SB, Rose JM. Low vision rehabilitation with older adults. Neurorehabilitation, 3:26-33, 1993.*

### **Caregiver study shows effectiveness of support programs**

Support programs for caregivers of frail elderly patients help minimize inappropriate use of health care resources, according to this HSR&D study. These findings have resulted in two technical reports, a book, presentations and a clinical training manual.

### **Clinical primary care pharmacists improve medication management among elderly veterans**

Elderly veterans frequently need multiple medications, which, if not managed properly, may produce side effects and drug interactions and complications. A *randomized controlled* study performed at the Durham VAMC by HSR&D personnel with funding from the National Institute on Aging showed that intervention by a clinical primary care pharmacist significantly improves medication control and even cuts prescription drug costs. As a result, the Durham VAMC's general medicine clinic staff now includes a clinical pharmacist as an integral member of its primary care team.

*Hanion JT, Weinberger M, Samsa GP, et al. A randomized controlled trial of a clinical pharmacist intervention to improve inappropriate prescribing in elderly outpatients with polypharmacy. American Journal of Medicine, 100:428-437, 1996.*

### **Local service demand is not affected by veteran migration**

It is important for VA to understand the potential impact of veterans' migration patterns on local service demands for planning purposes. Research revealed that migration patterns among elderly veterans do not appear to have an immediate effect on local demands for VA health care services. Rather, variations in admission rates across states may be explained primarily by the sociodemographic profile of "aging in place" veterans and VA hospital staffing ratios.

*Cowper DC, Longino CF, Jr. Veterans interstate migration and VA health service use. The Gerontologist, 32:44-50, 1992.*

### **Migrant veterans have much in common with other elderly migrants**

Health services researchers found that the sociodemographic characteristics of migrant veterans are similar to those of elderly migrants in the general population. They also observed that mandatory treatment veterans who considered VA locations in their migration decisions, veterans who live within five miles from a VA facility, and disabled veterans were most likely to use VA medical facilities.

*Cowper DC, Corcoran EH. Elderly veterans - possible forerunners of migration: a comparison of the veteran elderly and the general elderly migration patterns, 1960-1980. Journal of Applied Gerontology, 8:451-464, 1989.*

## **Adult Day Health Care**

### **VA cuts back on adult day health care programs after HSR&D study indicates little benefit**

HSR&D research has had a major impact on VA policy with respect to adult day health care, after showing that adult day health care did not benefit patients and caregivers overall and cost about 15 percent more than customary care. New programs were cut back and preference given to contract over VA-based programs. This research also has helped VA identify certain types of patients who may be served more cost-effectively using adult day health care in place of hospital and nursing home care.

*Hedrick SC, Branch LG. The adult day health care evaluation study. Medical Care, 31:S1-S2, 1993.*

### **VA's adult day care assessment tools are widely used**

VA's research in adult day health care has produced an important knowledge base about the structure and functioning of adult day care programs in the U.S. that has been disseminated through numerous published papers. HSR&D's instruments for measuring the structure and process of adult day health care programs are being used in a national study mandated by Congress to evaluate VA and contract adult day care programs. In addition, these instruments were selected by the Illinois Department of Aging for use in its adult day health care quality assurance program.

## **Advance Directives**

### **Patients should express preferences for life-sustaining treatment in advance directives**

This research demonstrated the critical need for more informed advance care directives that accurately reflect patient preferences regarding life-sustaining treatment and inform provider decisions. Studies showed the physicians may undervalue patient quality of life when compared with the patient's own perceptions. In addition, physicians, nurses, and spouses generally were unable to accurately judge what, in the patient's opinion, would constitute "futile treatment." This HSR&D research resulted in the publication of a workbook, *Your Life, Your Choices*, to help patients develop personalized advance directives. Recommendations stemming from this research have been distributed throughout VA by the National Center for Clinical Ethics.

*Uhlmann, RF, Pearlman RA. Perceived quality of life and preferences for life sustaining treatment in older adults. Archives of Internal Medicine. 151:495-497, 1991.*

### **Use of advance directives is promoted through computerization, tracking and staff education**

Advance care directives provide guidance to family members and health care professionals in the event that a patient becomes unable to express his wishes regarding treatment. Health care providers increasingly are

looking to advance directives to help them care for their hospitalized patients, yet many people do not complete them. The San Francisco VAMC decided to take a systematic approach to advance directives through computerization in 1995 and stepped up tracking and documentation. These efforts subsequently were supplemented with new staff education programs.

### **Patient education video on advance directives helps patients with decision making**

HSR&D research led to the development of a patient education video on advance directives. The interactive videodisc and videotape are available at all VA medical center libraries to help veterans decide how to clarify their preferences regarding life-sustaining treatment.

### **Educational program helps physicians discuss advance directives with patients**

HSR&D researchers have developed an educational program to improve physicians' skills in discussing advance directives with their patients that physicians say they have found useful and relevant. This program may help VA's efforts to promote patient autonomy through advance directives.

## **Geriatric Evaluation, Management and Rehabilitation**

### **New scale gauges geriatric rehabilitation**

Geriatric rehabilitation patients and their individual treatment goals are so diverse that it is difficult to measure their progress accurately. Using a new scaling technique developed by HSR&D supported researchers, clinical staff can now identify and set specific treatment goals tailored to the individual patient, and then monitor quite precisely the patient's progress or outcomes with respect to those goals. Treatment planning and coordination are more efficient, and staff have timely feedback on specific accomplishments with each patient. In addition, staff are able to improve, on a continuing basis, the match of specific treatment procedures to individual patient requirements.

*Kiresuk T, Smith A, Cardillo, JE (Eds.) Goal attainment scaling: application, theory, and measurement. Hillsdale, NJ: Erlbaum, 1994.*

### **Targeting criteria help identify patients who need geriatric intervention**

It's important to determine which acutely ill, hospitalized, elderly patients will benefit most from special geriatric care; Palo Alto health services researchers designed targeting criteria to do just that. These simple, clear and inexpensive criteria predict mortality and nursing home utilization better than age or diagnosis. They have been disseminated nationally for use in a wide variety of clinical settings.

*Winograd CH, Gerety MB, Chung M, et al. Screening for frailty: criteria and predictors of outcomes. Journal of the American Geriatrics Society, 39:778-784, 1991.*

### **Geriatric evaluation improves outcomes and costs among elderly hospital patients**

A hospital-based geriatric evaluation intervention improved long-term hospitalization outcomes – including death, dysfunction, and readmission — and significantly reduced costs among elderly veterans. This study resulted in the wide dissemination of geriatric evaluation units within and outside VA and is regarded as an important contribution to geriatric health services research.

*Rubenstein LZ, Josephson KR, Wieland GD, et al. Effectiveness of a geriatric evaluation unit: a randomized clinical trial. New England Journal of Medicine, 311:1664-1670, 1984*

## Health Status and Functional Outcomes

### **Veterans' health status assessments reveal higher expected health care use among aging veterans.**

VA wants to be able to compare the quality of its care with that of non-VA providers. To do that, VA must learn more about differences in patient populations between VA and non-VA providers. The Veterans Health Study found that aging veterans are generally less healthy than comparable civilian outpatients – and likely, therefore, to use more health care resources. These findings may hold important implications for resource planning.

*Kazis LE, Miller D, Skinner K, et al. Health related quality of life in veterans: the Veterans Health Study. Abstract presented at the Association for Health Services Research Meeting, 1994.*

### **Functional outcomes for hospitalized elderly improve with new intervention**

Elderly veterans hospitalized because of acute illness often suffer losses in their functioning abilities. By re-engineering hospital and ambulatory services for these patients, HSR&D researchers were able to improve their functional outcomes at discharge. Now the researchers are evaluating a post-discharge component for their intervention to ensure patients' continued progress. This new system – known as Acute Care for Elders – can be implemented without increasing health care costs.

*Landefeld CS, Palmer RM, Kresevic D, et al. A randomized trial of care in a hospital medical unit designed to improve the functional outcomes of acutely ill older patients. New England Journal of Medicine, 332:1338-1344, 1995.*

### **Frail hospitalized veterans benefit from new physical assessment tool**

The widely disseminated Physical Performance and Mobility Examination (PPME) has proved valuable in the clinical screening, treatment and discharge planning of frail elderly hospital patients. The PPME was designed by HSR&D to measure physical functioning for these patients. With these assessments, VA care providers can develop customized treatment and appropriate discharge plans for these special patients.

*Winograd CH, Lemsky CM, Nevitt MC, et al. Development of a physical performance and mobility examination. Journal of the American Geriatrics Society, 42: 743-749, 1994.*

### **Intervention helps prevent falls**

Frail elderly people are at high risk for serious problems resulting from falls. An intervention program piloted by VA has led to the establishment of fall prevention and post-fall assessment protocols in geriatric care settings nationwide. HSR&D's research showed that a post-fall assessment can identify many treatable conditions, that the fall itself is often a marker for an underlying vulnerability in need of intervention, and that patients who were assessed after a fall were far less likely to be admitted to a hospital.

*Rubenstein LZ, Josephson KR, Robbins AS. Falls in the nursing home. Annals of Internal Medicine, 121:442-451, 1994.*

## Home Based Care

### **VA home care programs top non-VA providers in breadth of service**

Aging, chronically ill and disabled veterans can receive a wider array of skilled nursing, physical therapy and social services in the comfort of their own homes from VA home care providers than in non-VA nursing homes. An HSR&D survey in all 74 VA home-based care programs found that, as a group, these patients are more frail than non-VA patients and have greater need for these services. This study shows that VA is uniquely prepared to provide these important services.

*Hughes S, Cummings J, Weaver F, et al. The cost-effectiveness of a hospital-based home care program for the severely disabled. Medical Care, 28:135-145, 1990.*

### **Project targets cost effectiveness of home-based primary care**

Home-based primary care (HBPC) holds great potential for lowering total health care and hospital readmission costs among severely disabled and terminally ill patients. A new study will investigate whether these and other benefits can be conferred among other VA patients as well. Although the study is still in an early stage, it has already had an impact on policy at several VAMCs that had been considering closing their HBPC programs because of financial constraints. It is hoped that this project will identify a new role for HBPC in VA's evolving long-term care strategy for veterans.

Weaver FM, Hughes S, Cummings J, et al. A profile of Veterans Affairs hospital based home care programs. *Home Health Care Services Quarterly*, 15:83-96, 1995.

## **Long Term Care**

### **Long-term care resource guide catalogues VA databases and research**

A sound long-term care strategy will be critical to the care of VA's aging patient population. A new three-volume resource guide based on an inventory of VA databases for long-term care will inform that strategy. This guide describes the strengths and weaknesses of those databases and VA research in long-term care. The guide was distributed system-wide and will soon be available through the VA home page on the World Wide Web.

Management Decision & Research Center. *Community based long term care resource guide, making a difference for veterans: State of the Art series*. January 27, 1994.

### **Costs and availability of long-term care vary substantially, study finds**

Differences in costs between VA nursing home care units and contracted community nursing homes vary widely across regions, this study found. In addition, the availability of these long-term care providers differs substantially, in accordance with local market conditions. Based on these findings, researchers recommended that decisions about long-term care resources be made at the network or facility level. These recommendations have significant implications for VA policy on long-term care.

Center for health quality, outcomes and economic research. *Nursing home cost study: A comparison of VA nursing homes and contract nursing homes*. Management Decision and Research Center, Veterans Health Administration, 1996.

### **VA takes steps to improve contracted nursing home placements**

In many areas of the country, VA staff have had difficulty placing hospitalized veterans into contracted community nursing homes (CNHs). Two studies found that one reason for this problem is that VA does not pay sufficiently high rates for contracted placements in some areas. This information has been used to modify some of the CNH contracting requirements so that VA is a more competitive purchaser in local markets. These changes appear to have eased placement problems in some areas.

Bishop C, Skwara K. *Payment methods for the Veterans Health Administration community nursing home program*. Management Decision and Research Center. Veterans Health Administration, 1995.

Conrad K, Weaver F, Guihan M, et al. *Evaluation of the enhanced prospective payment system (EPPS) for VA contract nursing homes*. Management Decision and Research Center. Veterans Health Administration, 1995.

### **VA research combats bacterial infection at long-term care facilities**

Long-term care patients with certain underlying diseases are at high risk for infection. As a result, management of antibiotic-resistant pathogens is critical in long-term care facilities. HSR&D research has been instrumental in the development of recommendations for handling antibiotic-resistant bacteria colonization in long-term care facilities.

*Kauffman CA, Terpenning MS, He X, et al. Attempts to eradicate methicillin-resistant Staphylococcus aureus from a long-term-care facility with the use of mupirocin ointment. American Journal of Medicine, 94:371-378, 1993.*

*Mulhausen PL, Harrell LJ, Weinberger M, et al. Contrasting methicillin-resistant staphylococcus aureus colonization in Veterans Affairs and community nursing homes. Annals of Internal Medicine, 100:24-31, 1996.*

### **Research efforts lower incidence of pressure ulcers**

Pressure ulcers cause a great deal of pain and suffering among patients in long-term care facilities that, for the most part, could be prevented. HSR&D's research into the causes, prevention and treatment of pressure ulcers has led to a 25 percent reduction in pressure ulcer development among long-term care patients. As a result, VA is now examining ways to further improve pressure ulcer care through use of clinical practice guidelines and long-term care performance measures.

*Berlowitz DR, Halpern J. Evaluating and improving pressure ulcer care: the VA experience using administrative data. Joint Commission Journal on Quality Improvement, In Press, August, 1997.*

### **Routine laboratory test unnecessary in most nursing home patients**

Residents of nursing homes frequently have blood tests performed on a monthly, quarterly, or annual basis. This VA study demonstrated that routine testing rarely leads to any benefit to nursing home residents. Considerable savings may then result by not performing these unnecessary tests.

*Kim D, Berlowitz DR. The limited value of routine laboratory assessments in severely impaired nursing home residents. JAMA, 272:1447-1452, 1994.*



## CHRONIC DISEASES

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*Tens of millions of Americans, including most older veterans, suffer from one or more chronic conditions such as diabetes, congestive heart failure, chronic lung disease and hypertension. Chronic disease affects the entire veteran population. Indeed, they are the number one health problem among veterans and the dominant source of VA expenditure for ambulatory care.*

*A number of HSR&D initiatives have addressed this increasingly important area of research, focusing on how to improve the health of veterans with chronic diseases in the most cost-effective manner.*

### **Efficiencies identified in antibiotic treatment for sinusitis**

Antibiotic treatment for sinusitis is costly and the optimal number of days of treatment is uncertain. This HSR&D study showed that a three-day course of antibiotics for acute sinusitis was as effective as a 10-day course, produced fewer side effects and did not compromise quality of care. If applied nationally, these findings could save VA an estimated \$80 million. Targeted dissemination is currently in planning.

*Williams JW, Holleman DR, Samsa GP, et al. Randomized controlled trial of three versus ten days of trimethoprim-sulfamethoxazole for acute maxillary sinusitis. JAMA, 278:1015-1021, 1995.*

### **HSR&D research sparks changes in use of transcutaneous electrical nerve stimulation**

Transcutaneous electrical nerve stimulation (TENS) is widely used in the management of chronic pain. HSR&D research resulted in several modifications in clinical procedures for TENS evaluations and trials; improved communication between pain clinic and physical therapy service staff; resulted in changes in clinical guidelines for TENS referral, improved record-keeping and evaluation; and initiation of routine TENS follow-up.

*Deyo RA, Walsh NE, Martin DC, et al. A controlled trial of transcutaneous electrical nerve stimulation (TENS) and exercise for chronic low back pain. New England Journal of Medicine, 322:1627-1634, 1990.*

## AIDS & HIV

*VA is the single largest provider of care to the HIV-infected in the U.S. More than 23,400 veterans with AIDS – approximately 6 percent of adult and adolescent cases reported to the U.S. Centers for Disease Control and Prevention – had received care from VA, as of March 1995. In addition, in fiscal 1994, more than 17,000 HIV-infected veterans received care within the VA system.*

*The resource implications of caring for these patients are staggering. Clearly, VA needs more comprehensive information about resource use and costs of care for HIV-infected veterans. It also needs to identify the most cost-effective ways to treat AIDS patients and provide them care that will not only extend but improve the quality of their lives. These projects illustrate HSR&D's efforts in this increasingly important area of research.*

### **Cost-effectiveness of zidovudine is sensitive to side effects**

Doctors should reconsider early treatment with zidovudine for AIDS patients who experience side effects that substantially compromise their quality of life, this study found. Early treatment with zidovudine is



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expensive, and its cost effectiveness may be offset by adverse side effects.

*Oddone E, Cowper P, Hamilton JD, et al. Cost effectiveness analysis of early zidovudine treatment of HIV infected patients. BMJ, 307:1322-1325, 1993.*

### **PCR is not an accurate screen for HIV in adults**

Successful screening for HIV depends on reliable tests. This HSR&D study showed that the polymerase chain reaction (PCR) test, which is the best available screen for HIV infection in infants, is not sufficiently accurate to diagnose HIV infection in adults without confirmation.

*Owens DK, Nease RF, Jr., Harris RA. Cost-effectiveness of HIV screening in acute care settings. Archives of Internal Medicine, 156:394-404, 1996.*

### **Assessment tool identifies AIDS patients who qualify for step-down care**

Intermediate skilled nursing facilities, or “step-down” units, may provide more cost-effective care for AIDS patients who no longer require acute care hospital services. VA researchers developed a simple bedside index method for identifying early those patients who may benefit from step-down care.

### **Costs of caring for patients with AIDS-related pneumonia are similar at VA and other hospitals**

This HSR&D study shows overall costs of care for patients with AIDS-related pneumonia at VA hospitals are on a par with those of other providers. The average monthly inpatient and outpatient costs of care for patients with AIDS-related pneumonia is lowest at VA hospitals, compared with public and private hospitals, despite the fact that VA hospitals have the longest length of stay.

*Bennett CL, Ullman M, Dickinson GM, et al. Patterns of care for HIV-related PCP in a university medical program: a case study. Clinical Performance and Quality Health Care, 14:186-189, 1996.*

### **New illness severity systems will guide HIV and AIDS treatment**

Illness severity must be classified to guide clinical decision-making, evaluate the effectiveness of diagnostic and therapeutic interventions, and estimate resource use. In a ground breaking endeavor, HSR&D researchers successfully developed two illness severity systems that predicted progression to AIDS in HIV-infected patients and a third system that predicted survival in AIDS patients. These systems are based on relatively few variables, for which the data are readily available in clinical practice settings. These systems can also be used to guide clinical decision making and to assist patients in planning for the future.

*Rabeneck L, Wray NP. Predicting the outcomes of human immunodeficiency virus infection. How well are we doing? Archives of Internal Medicine, 153:2749-2755, 1993.*

### **Cost analysis will assist in policy planning for HIV**

Findings from this study, which demonstrated the considerable resource burden of HIV care for VA, will assist policy makers faced with resource allocation decisions. It is the first large-scale, comprehensive, longitudinal VA study of resource utilization in patients encompassing the full clinical spectrum of HIV infection, and may serve as a model for future VA cost-of-illness studies.

### **Minority AIDS patients received unbiased treatment at VA hospitals**

Black and Hispanic patients with AIDS-related pneumonia received better care and experienced better outcomes in VA hospitals than their counterparts in non-VA hospitals.

*Bennett C. Racial differences in care among hospitalized patients with PCP in Chicago, New York, Los Angeles, Miami and Raleigh-Durham. Archives of Internal Medicine, 155:1586-1594, 1995.*

## Alzheimer's Disease

*Alzheimer's disease is the single most common cause of dementia in the aged, accounting for 35 to 55 percent of all cases. By the next century, an estimated 600,000 veterans with severe dementia will require long-term institutional care. The following research projects illustrate HSR&D's commitment to shedding new and much-needed light on this troubling and perplexing disease.*

### **Conversations dramatically improve behaviors of Alzheimer's patients**

HSR&D researchers developed a simple and inexpensive therapy for use with Alzheimer's patients. Listening to tape-recorded conversations with their family members promoted a sense of well-being and serenity among Alzheimer's patients – without the use of drugs or restraints. This technique holds promise for patients, family members and care givers and can reduce costs significantly.

*Woods P, Ashley J. Simulated presence therapy: using selected memories to manage problem behaviors in Alzheimer's Disease patients. Geriatric Nursing, 16:9-14, 1995.*

### **Hospice care approach to management of Alzheimer patients improves quality of life, cuts costs**

Hospice management for patients with advanced dementia increases patient comfort and is less costly, compared with standard medical management, according to this HSR&D study. These findings have resulted in the production of instructional videotapes that have been distributed throughout the VA system.

*Volicer L, Rheame Y, Brown J, et al. Hospice approach to the treatment of patients with advanced dementia of the Alzheimer type. JAMA, 256:2210-2213, 1986.*

## Cancer

*Cancer strikes thousands of Americans each year; many of them veterans. VA researchers are diligently exploring options for detecting and treating this terrible disease. Many of these efforts focus on prostate cancer which is the second leading cause of death from cancer in men. The following HSR&D studies currently underway highlight some of VA's efforts in the fight against cancer.*

### **Clinical database enhances follow-up of colorectal cancer patients**

A relational database developed by HSR&D to store and manage clinical data on colorectal cancer patients is being used to detect recurrent cancer early and treat it promptly. An evaluation of this system showed that recurrent cancer was detected for a significant number of asymptomatic patients.

### **Study traces impact of family history on prostate cancer risk**

HSR&D researchers in Houston are developing screening and intervention strategies for men at high risk for prostate cancer by studying their family history. The goal is to determine the role of family history (genetics) as a risk factor in prostate cancer. Forty percent of the men enrolled in this study are African Americans, who have the highest incidence of prostate cancer in the world, but who have not been studied as systematically as whites.

### **Prostate cancer study will examine patient involvement in treatment**

Some research has suggested that patients who are more active in their treatment decisions tend to be more satisfied with the results. To test this theory, HSR&D researchers are investigating the role of patient

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involvement in the treatment of prostate cancer. The results will shed new light on decision making for prostate cancer and help researchers design better interventions to encourage informed decision making in men with prostate cancer.

### **Study examines preferences of men with advanced prostate cancer**

Men with advanced prostate cancer have no hope for cure. Treatment choices offer relief from symptoms, but they do not prolong life. Therefore, patient preferences in the choice of therapy are of the utmost importance. This study is examining the adequacy of available methods to assess patient preferences and correlating how patient preferences and quality of life change as prostate cancer progresses.

## Cardiovascular Diseases

*Heart disease affects over 7 million people in this country and is a major concern for our veterans. Every year nearly 500,000 people in the United States die or are disabled by a stroke, over 40 million Americans have high blood pressure and about one and a half million people suffer heart attacks. The personal and financial costs of treating heart disease are staggering. VA researchers commit enormous effort to exploring ways to prevent and treat heart disease. The following studies highlight some of HSR&D's efforts in this area.*

### **Anticoagulation therapy is safe for most veterans**

More than 100,000 veterans take anticoagulation drugs, which may produce serious bleeding complications. This HSR&D study provided important information about the risk factors for these complications and concluded that this preventive treatment is relatively safe for most elderly patients.

*Fihn SD, Callahan CM, Henikoff JG, et al. [for the National Consortium of Anticoagulation Clinics.] The risk for and severity of bleeding complications in elderly patients treated with warfarin. Annals of Internal Medicine, 124:970-979, 1996.*

### **Optimal scheduling system simplifies anticoagulation management**

Many veterans must take chronic anticoagulation therapy, and are required to make frequent clinic visits for monitoring. A sophisticated computerized system designed to advise clinicians on optimal scheduling for outpatient follow-up resulted in fewer visits and maintained or improved the quality of anticoagulation control. This system is in use at many VA and non-VA medical centers and may also be applied to scheduling visits for other complex chronic conditions in outpatient settings.

*Fihn SD, McDonnell MB, Vermes D, et al. [for the National Consortium of Anticoagulation Clinics.] A computerized intervention to improve timing of outpatient follow-up: a multicenter randomized trial in patients treated with warfarin. Journal of General Internal Medicine, 9:131-139, 1994.*

### **Self-management improves stroke prevention therapy among elderly patients**

Anticoagulant therapy for stroke prevention frequently is withheld from the very elderly because of the perceived risk of complications, yet these patients may benefit most from preventive treatment. HSR&D research showed how a self-management program could reduce bleeding complications among older patients during the first three to six months of long-term therapy.

*Beyth RJ, Landefeld CS. Anticoagulants in older patients: a safety perspective. Drugs and Aging, 6:45-54, 1995.*

### **Cholesterol screening guidelines by HSR&D researchers have nationwide impact**

HSR&D researchers wrote clinical practice guidelines on cholesterol screening for the American College of

Physicians that were distributed to physicians nationwide. These guidelines consist of seven specific recommendations and supporting evidence for screening.

Garber AM, Browner WS, Mazzaferri EL, et al. Guidelines for using serum cholesterol, high density lipoprotein cholesterol, and triglyceride levels as screening tests for preventing coronary heart disease in adults. *Annals of Internal Medicine*, 124:515-517, 1996.

### **Cholesterol management by allied health professionals provides benefits but is costly**

An estimated 11 million U.S. veterans are at increased risk for coronary artery disease because of elevated cholesterol levels. Proper cholesterol management is important but it may also be very costly to provide. In this HSR&D study, a specialized cholesterol management program operated by allied health professionals proved more effective than usual care but also more costly.

Schectman G, Hiatt J, Hartz A. Evaluation of the effectiveness of lipid lowering therapy for treating hypercholesterolemia in veterans. *American Journal of Cardiology*, 71:759-765, 1993.

### **Angina questionnaire assesses treatment impact on quality of life**

It's important to monitor the effects of treatment on quality of life among patients with coronary artery disease. The Seattle Angina Questionnaire, which was designed as part of an HSR&D project, uses patient-reported information to assess the impact of medical and surgical treatments on patients' health status and quality of life. This instrument is now widely used in clinical trials.

Speritus JA, Winder JA, Dewhurst TA, et al. Monitoring the quality of life in patients with coronary artery disease. *American Journal of Cardiology*, 74:1240-1244, 1996.

### **National database explores care of heart attack patients**

HSR&D researchers are investigating the care of heart attack patients, hoping to improve understanding of optimal patterns of care for these patients both in VA and in the private sector. To date, a national database of veterans who suffered heart attacks documents variations in the receipt of certain services. These findings hold important implications for improving the care of heart attack patients.

### **Study shows benefits of “clot-busting” drugs compared with angioplasty**

Balloon angioplasty is an established method for opening blocked arteries, but it is not always feasible in VA hospitals. This study showed that “clot-busting” drugs achieved outcomes similar to those of angioplasty at \$3,000 less per patient. This approach not only produces excellent outcomes at less expense; it also spares heart attack patients the risks associated with the use of an invasive procedure.

Every NR, Parsons LS, Hlatky M, et al. A comparison of thrombolytic therapy with primary coronary angioplasty for acute myocardial infarction. *New England Journal of Medicine*, 336:1253-1260, 1996.

### **VA compares favorably with private sector in coronary angioplasty study**

This quality-of-care evaluation showed that VA's tiered health care system may produce excellent outcomes from high-tech cardiac procedures, compared with the private sector. In this study of coronary angioplasty patients, VA patients experienced no differences in hospital or 30-day mortality from private-sector patients, even though the VA patients had more comorbid conditions. In addition, VA patients underwent less bypass surgery (a complication of angioplasty) within 30 days of the angioplasty procedure.

Ritchie JL, Maynard C, Chapko M, et al. Angioplasty (PTCA): outcomes in the Veterans Administration (VA) and the private sector (Washington State). *Journal of the American College of Cardiology*, 29 (2 Suppl A):50A, 1997.

## CHRONIC DISEASES

### **Research shows importance of periodontal disease in predicting cardiovascular risk**

An HSR&D analysis of the link between periodontal disease and cardiovascular disease suggests that periodontal disease is a significant and independent predictor of risk for cardiovascular disease, and of mortality of all causes. This study, drawn from the Dental Longitudinal Study cohort, holds important implications for the treatment of patients with periodontal disease.

## **Chronic Lung Diseases**

*VA cares for large numbers of veterans suffering from chronic lung diseases like asthma and emphysema. Tens of thousands of veterans rely on medications or oxygen therapy and many are hospitalized each year as a result of lung diseases. VA researchers are working to discover effective treatments for these incapacitating lung diseases.*

### **New lung disease survey measures quality of life among COPD patients**

A brief, self-administered questionnaire is being used to measure health-related quality of life among patients with chronic obstructive pulmonary disease (COPD). Quality of life is an important aspect of treatment effectiveness.

*Tu S-P, McDonnell MB, Spertus HA, et al. A new self-administered questionnaire to monitor the health-related quality of life of patients with chronic obstructive pulmonary disease. Chest, In Press.*

### **HSR&D study makes important contributions to treatment of COPD**

Findings from the Normative Aging Study have helped focus needed attention on the host of environmental factors that contribute to the development of chronic obstructive pulmonary disease. This pulmonary medicine research has laid the foundation for recent changes in therapy for bronchial asthma and COPD emphasizing the use of anti-inflammatory drugs.

*Selim AJ, Ren XHS, Fincke G, et al. A symptom-based measure of the severity of chronic lung disease: results from the Veteran's Health Study. Chest, 111:1607-1614, 1997.*

### **HSR&D study recommends cost-effective follow-up strategy for home oxygen**

Certain patients with chronic obstructive pulmonary disease who suffer from hypoxemia receive continuous long-term home oxygen therapy (HOT), an expensive treatment. A study of follow-up strategies for home oxygen programs found that patients who receive continuous HOT need not be routinely re-evaluated more frequently than every six months, once they have attained stability with HOT.

*Hagarty EM, Skorodin MS, Langbein WE, et al. Comparison of three oxygen delivery devices during exercise in hypoxemic COPD patients. American Journal of Respiratory and Critical Care Medicine, 155:893-898, 1997.*

### **Computerized system improves care for ventilator patients**

A clinical information system developed by VA health services researchers has revolutionized care of ventilator patients at the Palo Alto Health Care System. The system, which includes bedside work stations, allows nurses to simulate a patient's response to ventilator changes before the changes are made. The results: more accurate respirator settings, fewer medical complications, and better patient outcomes.

*Seiver A, Comerchero H. Clinical information management in clinical care. Intensive and Critical Care Digest, 6:195-201, 1989.*

### **Studies target oxygen conservation in long-term oxygen therapy**

Oxygen conservation in long-term oxygen therapy is of great interest to VA because of the high costs of treatment. Two health services research-based projects are underway to establish safe guidelines for the use of oxygen-conserving devices within VA; they have already provided valuable information to clinicians on the safe use of the reservoir nasal cannula or a demand flow oxygen-conserving device with hypoxemic COPD patients.

### **Guidelines improve care for patients with COPD, asthma and sexually transmitted diseases**

Practice guidelines are widely regarded as important tools for improving clinical practice. This project indicates that practice guidelines for the treatment of COPD/asthma and of sexually transmitted diseases have had positive impacts on local practice. In addition, the study has provided a valuable model for changing provider behavior that is being applied in other initiatives.

## **Diabetes**

*Diabetes, the third most common diagnosis among VA patients, affects about 30 percent of the veteran population. Kidney failure, blindness, blood pressure problems, foot ulcers, and other serious conditions often complicate the diabetic veteran's quality of life. Over half of VHA's lower extremity amputations are performed on diabetic patients.*

*Diabetic complications often quickly overwhelm treatment efforts. Diabetic veterans compromised by lifestyle behaviors like alcohol or tobacco use, or lack of motivation, are particularly vulnerable. Health services researchers make important contributions by designing and testing a wide range of diabetic health care interventions and programs. They can also identify interventions and programs that need revision. Managers, armed with these research findings, can make informed decisions when targeting and planning diabetic health care programs.*

*As health services research broadens our view of diabetes care, important strategies emerge for reducing human suffering and saving health care dollars. The following reports show how health services research significantly changes the ways in which diabetic veterans receive care and treatment.*

### **Researchers investigate effectiveness of “telecare” in managing diabetes**

New technologies offer exciting possibilities for treating and managing chronic diseases like diabetes. This study is examining the use of a prototype computer system that combines multi-media education, video conferencing and advanced communication technology in the management of patients with diabetes. Researchers believe this approach will reduce medical visits and hospital admissions and improve overall disease management for these patients.

### **HSR&D researchers identify links between diabetic severity and quality of life**

The ongoing Veterans Health Study (VHS) has scientifically demonstrated the link between diabetes severity and quality of life. HSR&D researchers identified two quantitative measures: increased blood sugar levels indicate illness severity in the short term; and the number, types, and severity of diabetic complications indicate reduced quality of life in the long term. These measures can reliably paint the big picture for evaluating the severity of diabetes effects in different patient groups over time, and for deciding how best to deliver diabetes care.



## CHRONIC DISEASES

### **HSR&D research focuses on foot ulcers**

Crippling diabetic foot ulcers often end in costly and disabling amputations. In a series of HSR&D studies with diabetic veterans at high risk for amputation, patients identified footwear as the most frequent initiating event in the causal chain leading to amputation. These findings have been incorporated into a number of research and educational initiatives, including the VA Diabetes Guideline Project and the “Feet Can Last a Lifetime” campaign by the National Institutes of Health.

*Reiber GE, Pecoraro RE, Koepsell TD. Diabetic amputations: major risk factors identified through a case-control study. Annals of Internal Medicine, 117:97-105, 1992.*

*Reiber GE, Koepsell TD. Risk factors for amputations in diabetics. Annals of Internal Medicine, 118:231, 1993.*

### **Care coordination improves blood sugar control, patient satisfaction**

Coordination of primary care services by a primary care nurse improved blood sugar control and patient satisfaction with care among veterans with type II diabetes, this study found. However, neither improvement in health-related quality of life nor a reduction in diabetes-related symptoms could be demonstrated in this study.

*Weinberger M, Kirkman MS, Samsa GP, et al. A nurse coordinated intervention for primary care patients with non-insulin-dependent diabetes mellitus-impact on glycemic control and health-related quality of life. Journal of General Internal Medicine, 10:59-66, 1995.*

### **Urine testing on par with self-monitoring of blood glucose**

HSR&D researchers demonstrated that self-monitoring of blood glucose offers no advantage over urine testing in the management of non-insulin dependent type II diabetes. Use of urine testing avoided the purchase of expensive self-monitoring equipment without compromising outcomes for type II diabetics.

### **HSR&D system aims at preventing complications among diabetic patients**

A newly developed detection system can target high-risk diabetic patients for intensified treatment, preventing the onset of blindness or end-stage renal disease. This information can be used for patient counseling and for planning more cost-effective ambulatory care programs.

### **Foot function index measures pain and disability among rheumatoid arthritis patients**

Rheumatoid arthritis frequently causes foot pain and swelling, which affect ambulation. HSR&D’s Functional Foot Index is widely used by clinicians as a diagnostic tool and by researchers in studying interventions designed to improve foot functioning among patients with rheumatoid arthritis. In addition, a VA study using this instrument showed that posted foot orthoses conferred no benefits over placebo orthoses for patients with rheumatoid arthritis.

*Marks MB, McKendry RJR. Orthoses for rheumatoid feet: does it matter what’s underfoot? Lancet, 347:1639, 1996.*

## MENTAL HEALTH CARE

*As many as 50 percent of hospitalized veterans have symptoms indicating some degree of psychological distress, including depression, anxiety and other mental health problems. These psychiatric disorders are associated with higher mortality, significant impairment and lower health status. VA researchers strive to identify the burden of mental illness on veterans, understand the relationship between mental health and physical health and improve the mental health and care of all veterans.*

### **Depression guidelines are put under the microscope**

Clinical depression can be crippling. The VA Major Depressive Disorder Clinical Guidelines Project is testing the impact of guidelines designed to treat patients with major depression. This study promises to improve the processes of care used to treat depression and to increase the use of guidelines by physicians.

### **Assessment tools evaluate quality of psychiatric care and substance abuse treatment**

HSR&D researchers have devoted considerable effort to developing instruments to systematically assess the quality of psychiatric and substance abuse treatment programs. Clinicians and program evaluators use these scales — the Ward Atmosphere Scale and the Community-Oriented Programs Environment Scale — to monitor treatment implementation and delivery, to describe and compare programs, to link program characteristics to patients' outcomes, and to provide feedback to staff and help them improve their program. These tools are used widely throughout VA, and their applications are described in more than 150 published articles and reports.

*Rost KM, Ross RL, Humphrey JB, et al. Does treatment work? Validation of the alcohol outcomes module. Medical Care, 34:283-294, 1996.*

### **Study focuses on inpatient screening for psychiatric conditions**

As many as 50 percent of general medical/surgical patients may have an underlying psychological problem, such as depression, anxiety or substance abuse. These underlying conditions may have a significant impact on a patient's outcome. This VA study will supply much-needed guidance on patient screening to identify psychiatric conditions at admission.

### **New screening tool helps to identify depression in primary care patients**

Major depression can have serious consequences, yet it often goes undiagnosed and untreated. Thanks to HSR&D, VA physicians now have an effective two-question screening tool they can use in outpatient settings to identify veterans with major depression. They also have a new awareness of the scope of the problem: Recent research shows that depression is prevalent among 14 percent of VA outpatients (excluding those with substance abuse problems, mania and/or psychosis). These findings have been widely disseminated to increase screening.

*Whooley MA, Avins AL, Miranda J, et al. Screening for depression: two questions are as good as many. Journal of General Internal Medicine, In Press.*

### **High prevalence of psychiatric disorders has impact on program planning**

Findings from the HSR&D-funded Hospital Outcomes Research Study have informed mental health programming in medical units at the national level and strengthened efforts to implement clinical practice



## MENTAL HEALTH CARE

guidelines. This study demonstrated the high prevalence of psychiatric disorders in medical and surgical inpatient units and the substantially lower functioning and health status associated with these disorders in medically ill veterans. It is believed that the results of this study will provide critical information to clinicians on the importance of patient care screening and history-taking to identify psychiatric conditions at admission.

### **HSR&D study focuses on screening mechanisms for PTSD patients**

Researchers are studying computerized neuropsychiatric testing systems for identifying elderly veterans at risk for post-traumatic stress disorder (PTSD) among those seeking outpatient medical treatment. Better identification of these patients will help ensure that they receive proper treatment and that all their medical needs are met.

### **Mental health outcome modules supplement CQI efforts across the country**

Measures of behavioral treatment outcomes is a priority in both the public and the private sectors. HSR&D is at the cutting edge in developing and testing disorder-specific mental health outcome measures or modules. Outcome modules are brief sets of questionnaires, designed for use in clinical settings to obtain comprehensive data on outcomes, utilization of care, and prognostic variables. To date, modules have been developed for major depression, alcohol use disorders, schizophrenia, drug use disorders, and panic disorder. These modules can be used in conjunction with continuous quality improvement techniques to improve the quality and efficiency of mental health care for veterans. They are gaining increasing use both within and outside VA.

*Cuffel BJ, Fischer DP, Owen RR, et al. An instrument for measurement of outcomes of care for schizophrenia: issues in development and implementation. Evaluation and the Health Professions, 20:96-108, 1997.*

### **Length of stay for psychiatric patients is shortened with computerized review**

HSR&D researchers found that computerized utilization review reduced length of stay for psychiatric patients. This research laid the foundation for new software designed to assist in the management of mental health treatment planning and monitoring programs, both within and outside VA. These computerized systems will prove especially valuable as VA shifts the focus of its mental health services from inpatient to outpatient delivery.

*Ramirez LF, McCormick RA, Hull A, et al. The effect of computerized utilization review on patterns of psychiatric inpatient care. Hospital and Community Psychiatry, 38:977-982, 1987.*

## SUBSTANCE ABUSE

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*Substance abuse costs VA \$2.5 billion annually and causes immeasurable pain and suffering for those afflicted with it. About one-fourth of all VA inpatients have substance abuse diagnoses, and their hospitalization stays account for one-third of all inpatient days provided by VA. Despite advances in pharmacological and rehabilitative management, substance addiction remains a chronic, disabling and life-threatening disorder. The following studies highlight VA's work in combatting substance abuse.*

### **High-intensity treatment is associated with better substance abuse outcomes**

More intensive substance abuse treatment produces better outcomes, but it may cost a substantial amount to achieve a relatively modest increment in outcome, according to a review of comparative studies conducted by researchers at the VA Palo Alto Health Care System. These and other findings from this review may help guide VA policy on substance abuse treatment.

### **Day hospital care and inpatient treatment result in similar outcomes**

Day hospital care for alcohol-dependent veterans produces patient outcomes similar to those of rehabilitation treatment and costs less. Health services researchers observed that inpatients received more employment services and more medical services, while day hospital patients received more services related to alcohol and drug treatment.

### **Case management expands homeless veterans' access to services**

Case managed residential care for homeless veterans with substance abuse tended to shift service delivery from inpatient settings to less expensive outpatient settings, this HSR&D study found. This approach improved patients' access to care. It also improved short-term outcomes that were measured in terms of health care, employment, and housing, although these gains tended to diminish during the year following treatment.

*Conrad K, Hultman CI, Pope A, et al. Case managed residential care for homeless addicted veterans: results of a true experiment. Medical Care, In Press, 1997.*

### **Social support targeted in alcoholic recovery**

Adequate social support is an important factor in successful recovery from alcoholism. As a result of this finding, caseworkers began taking more structured patient histories to gain a better understanding of patients' living environments and social support resources. Other results related to the use of domiciliary services have been used nationally to provide evidence for the effectiveness of those services.

*Booth BM, Russell DW, Yates WR, et al. Social support and depression in men during alcoholism treatment. Journal of Substance Abuse, 4:57-67, 1992.*

### **New approach helps prevent alcohol relapse in veterans with PTSD**

Nearly 75 percent of Vietnam veterans with post-traumatic stress disorder (PTSD) have had problems with alcohol abuse or dependence. A new method called Trauma Relevant Relapse Prevention Training (TRRPT) underscores the importance of addressing PTSD issues when treating alcoholic Vietnam veterans with PTSD. This approach significantly improved patients' ability to stay free of alcohol. In addition, these patients were less angry, less violent, less suicidal and had fewer rehospitalizations.

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### **Safe Rides Home program keeps VA patients from driving while alcohol-impaired**

HSR&D researchers in Durham, NC, found that patients admitted to emergency departments with presumed alcohol impairment frequently were not counseled against driving home or informed of the availability of safe transportation. As a result, the Durham VAMC now issues a driving prescription that advises patients on when their blood alcohol levels will return to normal, or staff provide a ride home for alcohol-impaired patients.

*Simel DL, Feussner JR. Driving-impaired patients leaving the emergency department. The problem of inadequate instructions. Annals of Internal Medicine, 112:365-370, 1990.*

### **Brief smoking cessation interventions are effective**

Clinicians can have a positive and significant impact on their patients' efforts to quit smoking – in very little time. This study demonstrated the effectiveness of extremely brief interventions such as patient information pamphlets in smoking cessation. Use of these findings will help improve veterans' overall health substantially and possibly produce savings as well.

*Weissfeld JL, Holloway JJ. Treatment for cigarette smoking in a Department of Veterans Affairs outpatient clinic. Archives of Internal Medicine, 151:973-977, 1991.*

### **Hospital utilization declines following intensive alcoholism treatment**

Inpatient alcoholism treatment reduces VA patients' use of hospital services over time and is associated with a lower risk of death than less intensive forms of inpatient treatment, according to researchers. This is despite the fact that certain groups of chronic alcoholic veterans cannot sustain prolonged abstinence, even after intensive inpatient treatment.

*Bunn JY, Booth BM, Loveland CA, et al. The relationship between mortality and intensity of inpatient alcoholism treatment. American Journal of Public Health; 84:211-214, 1994.*

### **Research on substance abuse treatment helps reorganize services**

Research is playing an important role in VA's reorganization of its substance abuse treatment services. Most significantly, a literature review by HSR&D researchers found that inpatient and outpatient substance abuse treatment are equally effective. These findings have been distributed to all veterans integrated service network (VISN) directors and clinical managers. In addition, staff in specialty mental health services have disseminated this research to all facility directors, chiefs of psychology and psychiatry, and substance abuse program managers.

*Finney JW, Moos RH. The effectiveness of inpatient and outpatient treatment for alcohol abuse: the need to focus on mediators and moderators of setting effects. Addiction, 91:1773-1796, 1996.*

### **NIAAA taps HSR&D expertise for developing alcohol services research plan**

HSR&D staff have made an important contribution to the alcohol services research agenda of the National Institute on Alcohol Abuse and Alcoholism (NIAAA). Their paper, "Cost-Effectiveness of Alcohol Services," has been incorporated into NIAAA's long-term blueprint for alcohol health services research.

*Booth BM, Zhang ML. Cost effectiveness of alcohol services. In: NIAAA Panel on Effectiveness and Outcomes. National Advisory Council on Alcohol Abuse and Alcoholism. Subcommittee on Health Services Research, 1996.*

## HEALTH SYSTEMS

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*Health care delivery comprises many complex components, some of which are still in their early development. VA's vision extends beyond traditional hospital care to providing veterans with a full continuum of care. Accordingly, HSR&D researchers are taking steps to assure that all services provided by VA are of the highest quality and are cost-effective.*

### **Subacute care offers opportunities for savings**

This study examined the need for and availability of subacute care for medically stable patients who no longer require acute care but who need more than the level of care provided in a skilled nursing facility. Researchers found that increased use of subacute care services could potentially produce cost savings for VA. Some community nursing homes are prepared to offer these services; intermediate care units or nursing home care units may offer other alternatives.

*Conrad K, Guihan M, Hynes D, et al. Subacute care in the VA: estimating need, availability, and cost. Management Decision and Research Center, Veterans Health Administration, 1996.*

### **Facility Integration Study**

Since January 1995, thirty-two VA Medical Centers have been approved to merge, creating sixteen new integrated medical centers, and additional facility integrations are being considered. This two part study will provide a systematic evaluation of VHA facility integrations with a specific focus on management lessons that can be drawn. The first part of the study will document the planning and decision making processes; measure the extent of integration at each site; and describe the characteristics of the integrated facilities, including structures being put into place to manage the facilities and deliver care to veterans. The second part of the study is an analysis of the effects of integration on aspects of cost/efficiency, access, patient satisfaction and quality enhancement.

### **Evaluation of VISN Service Line Management**

VHA is continuing to support improvements in the delivery of veterans health care by restructuring organization and management practices to increase efficiencies and responsiveness to veterans. VHA's move toward "Service Line Management" is one aspect of this restructuring. The term "Service Line Management" covers a variety of organizational arrangements for focusing management efforts on providing coordinated care that meets patient and customer needs. Examples of service lines include primary care, mental health, spinal cord injury, and women's health care. This study will examine the process of change and the actual effectiveness of service lines to be implemented in nineteen VISNs.

### **Factors in increasing service demand are highlighted**

VA researchers are trying to gain a better understanding of variables that affect service use and demand, to assist in efforts to improve access and make more efficient use of resources. Research in the Chicago Metropolitan area showed that socio-economic variables and proximity of patients to VA hospitals explained more than three-quarters of cross-sectional variation in VA discharges. Closures of non-VA hospitals also affected VA discharges. The study underscored the importance of examining both VA and non-VA sectors in assessing veterans' access to health care.

*Cowper DC, Manheim LM, Kubal JD. Retired veteran mobility: migrant characteristics and utilization of ambulatory care resources. Journal of Applied Gerontology, 13:236-249, 1994.*

## HEALTH SYSTEMS

### **Distance is crucial determinant in veterans' choices between VA and non-VA hospitals**

VA is interested in learning what factors play a role in veterans' decisions to use a VA or non-VA facility for their inpatient care so that it can devise strategies for increasing market share in certain areas. HSR&D researchers showed that distance – or travel time – between the patient's home and the hospital is the most important determining factor. These findings may provide evidence for more convenient access points and/or VA travel assistance to veterans who require inpatient services.

### **Advanced communication system expands access for patients in remote areas**

Systems developed by HSR&D have enabled the VA Northern California System of Clinics to provide services for neurogenic communication disorder, or aphasia, to veterans in remote areas. These patients receive appraisals, diagnoses, and treatment via computer-controlled video laser disc and telephonic technology from the system's clinicians. The content of these services does not differ significantly from that of traditional treatment. More importantly, aphasic patients who are treated through the new technology improve as much as do patients who receive traditional, face-to-face treatment.

*Wertz RT, Dronkers NF, Bernstein-Ellis E, et al. The potential of telephonic and television technology for appraising and diagnosing neurogenic communication disorders in remote settings. Aphasiology, 6:195-202, 1992.*

### **Health care access for rural areas increases with mobile clinics**

Mobile clinics improved access to care in rural areas, this HSR&D study found, but there were significant limitations with their implementation and they were expensive to operate. This study holds important implications for VA efforts to make rural health care services more accessible and more cost-efficient.

*Houston Center for Quality of Care and Utilization studies. Evaluation of the Department of Veterans Affairs Mobile Clinic. Project Report. March, 1995.*

### **Research sparks efforts to reduce bed utilization**

HSR&D studies of acute hospital bed utilization in VA medical centers showed that more than 30 percent of patients admitted for acute medical and surgical services could have been cared for at a lower and less expensive level of care. Using data and conclusions from these studies, VA has initiated an aggressive program to reduce inappropriate use of hospital beds and to increase care provided in the ambulatory setting. These efforts have been remarkably successful. Recent data indicate that bed days of care declined 37 percent between 1994 and 1996.

*Smith CB, Goldman RL, Martin DC, et al. Overutilization of acute-care beds in Veterans Affairs hospitals. Medical Care, 34:85-96, 1996.*

### **Length-of-stay reports help utilization managers**

Annual, risk-adjusted length-of-stay reports for inpatient discharges that compare data at the VAMC, regional and national level have served as useful tools for VA medical utilization managers. Many VAMCs have used the reports to do retrospective review of overall hospitalization patterns or to examine length of stay for specific procedures and conditions.

### **Earthquake disaster provides knowledge base for future disaster relief**

HSR&D research will help VA plan for the types of staff, supplies, and pharmaceuticals that are likely to be needed to provide disaster relief. This information was drawn from VA's 1994 treatment of Northridge Earthquake disaster victims in Southern California. Findings showed that patients seen by two VA mobile clinics differed substantially from patients usually seen at VA clinics.

### **MRI stacks up well against CT scanning**

It's important to compare different diagnostic and treatment technologies to determine their appropriate use. This HSR&D study favorably compared magnetic resonance imaging (MRI) with computerized tomography (CT) in scanning the abdomen and pelvis. The study showed that overall inter-observer and intra-observer agreement was significantly higher for MRI compared with CT.

*Elixhauser A, Reker DM, Gillespie KN, et al. A comparison of in-house and regionalized CT scanning: clinical impact and cost-effectiveness. Health Services Research, 25:177-196, 1990.*

### **Diagnostic applications of PET not supported by literature, HSR&D assessment finds**

VA has decided not to invest in additional centers for positron emission tomography (PET). Researchers found little evidence to support the use of PET as a diagnostic tool for specific conditions.

*Positron emission tomography: a descriptive analysis of experience with PET in VA, systematic reviews - FDG PET as diagnostic test for cancer and Alzheimer's disease. MDRC Technology Assessment Program Report. Available from NTIS, PB#97-143614, 1996.*

### **Surgical planning model cuts costs and assures access**

A computer-based surgical suite planning tool reduced the cost of surgical suite construction and operation by ensuring facilities are sized appropriately. The Operating Room Planning Model (ORPM), an instrument developed through HSR&D funding, also demonstrated that VA's aging veteran population will continue to need surgical suite capacity close to current levels. The ORPM helps assure access to surgical care by providing a rational basis for maintaining needed capacity.

*Hancock WM, Walter PF, More RA, et al. Operating Room Scheduling Data Base. Analysis for Scheduling. Journal of Medical Systems, 12:397-409, 1988.*

### **Detailed information is important to changing provider behavior**

This study suggests that practice guidelines which provide specific information and recommendations stand a better chance of changing provider behavior than guidelines that are general or vague. In this study of patients with low back pain, physicians who received specific guidelines ordered more appropriate tests and fewer inappropriate tests than physicians who received general guidelines. This study is expected to have a national impact on how guidelines are developed.

### **Recommendations would redesign work for medical ward house staff**

The time and resources of house staff at inpatient medical wards frequently are not used well, this study found. This staff should be freed from activities that are low in education and patient care value, researchers recommended, adding that planners can use automated random sampling to guide the rational redesign of house officer work.

*Luck J, Dresselhaus TR, Bozzette SA. Time and value: an automated random sampling analysis of medical housestaff inpatient work. Department of Veterans Affairs Health Services Research and Development Annual Meeting, February, 1997. (abstract)*



### Primary Care

*Primary care is the provision of continuous, comprehensive, and coordinated health care. This approach to organizing health care is characterized by four key features that work together to enhance the effectiveness and efficiency of health care services.*

- *Accessible first-contact care: Proximity to the primary care site, availability of public transportation or parking and wheelchair compatibility are only a few examples of the many factors influencing accessibility.*
- *Continuity over time: The development of an ongoing relationship between patient and primary care provider (or a team of providers) is central to health care continuity.*
- *Comprehensiveness: Comprehensiveness of care is achieved when the primary care provider arranges the full spectrum of services to meet all but the patient's uncommon health care needs.*
- *Coordination: Coordinated care avoids service duplications, enhances efficiency, and prevents gaps in care. Coordinated care means all information pertaining to the patient is integrated and easily retrievable.*

*A number of HSR&D research efforts are under way to help VA achieve its vision of a primary care system that is accessible and provides seamless, comprehensive and coordinated care to veterans.*

#### **HSR&D provides leadership in influenza immunization**

Pioneering work by HSR&D has made VA a national leader in influenza immunization. One veterans ambulatory care center increased its immunization rates from 7 percent to 82 percent. In another initiative, a low-cost, patient-centered program increased the rate of influenza vaccination among high-risk patients and produced significant cost savings. This work has also been applied in non-VA settings and is widely regarded as an important contribution to nationwide health promotion and disease prevention efforts. HSR&D efforts are also helping VA boost vaccination among its own employees through dissemination of a Practice Matters bulletin on this issue.

*Branch LG. National Center for Health Promotion Newsletter, Spring 1997. Management Decision and Research Center. Influenza immunization. Practice Matters, 1:1-4, 1996.*

#### **Surveys demonstrate use of primary care models in VA**

Two HSR&D-funded national surveys documenting VA progress in implementing primary care are having a significant impact on primary care policy and planning. These studies have assisted the VAMCs in understanding primary care and deploying primary care models in their medical centers. It is anticipated that this research will also influence VISN planning, reorganization and oversight and local facility planning and review.

*Yano EM, Lukas CVD, Katz L, et al. Delivery Models for Primary Care: VHA Firm Systems (Final Report). Washington, D.C.: Office of Ambulatory and Primary Care, December 1996.*

*Yano EM, Lukas CVD, Katz L, et al. Inventory of VHA Firm Systems. Washington, D.C.: Office of Ambulatory and Primary Care, June 1996.*

#### **Telephone care produces cost and outcomes benefits among some primary care patients**

Telephone care may serve as a viable alternative to clinic visits for some routine primary care, according to

this HSR&D study. Estimated annual average savings per patient from telephone care exceeded \$800; meanwhile, patient outcomes, including physical function and self-reported health status, improved.

### **Use of physician assistants reduces hospitalization among urban elderly**

Enhanced primary care among older patients who use urban neighborhood health clinics can reduce hospitalization, especially readmissions and emergency room use. The intervention in this HSR&D study used physician assistants to improve preventive care and the continuity of care for people 70 or older using health clinics. Delivery of routine preventive services was not improved by the intervention, however.

*Anderson PA, Fortinsky RH, Wright PJ, et al. Can comprehensive primary care of elders in urban health centers be improved by physician assistants? Journal of General Internal Medicine, In Press, 1997.*

### **Study finds lack of resolution on ethical issues discussed in doctors' offices**

Ethical issues are not well-covered in most discussions between patients and their primary care doctors, although they do arise frequently, this HSR&D study found. This study suggests that while ethical concerns often take center stage during life-and-death situations that take place in hospitals, they also deserve more attention in doctors' offices.

*Braddock CH, Fihn SD, Levinson W, et al. How doctors and patients discuss routine clinical decisions. Journal of General Internal Medicine, 12:339-445, 1997.*

### **Collaborative care model promotes healthier patient behavior**

A nursing-based collaborative care model aimed at increasing patient knowledge and self-care persuaded more patients to quit smoking, improve their eating habits and comply with their treatment, this HSR&D study showed. Mortality rates were also lower among these patients a year after discharge from the hospital. This model may also result in cost savings, the researchers suggested.

*Pioro MH, Landefeld CS, Brennan PF, et al. Randomized controlled trial of an inpatient nurse practitioner service. Journal of Investigative Medicine, 44:229A, 1996.*

### **Large study assesses health status among veterans**

The move to take a population-based view of health care has highlighted the need to develop systems that track the health status of large groups. An ongoing HSR&D study is tracking more than 40,000 veterans with periodic health status assessments. Primary care providers can use this information to improve care.

*Reiber GS, McDonnell MB, Schleyer AM, et al. A comprehensive system for quality improvement in ambulatory care; assessing quality of diabetes care. Patient Education and Counseling, 26:337-341, 1995.*



### Oral Health

*The rapid aging of the veteran population makes oral health services research more important than ever. Although dentistry as a field has been a leader in promoting preventive services, it has lagged behind in researching effective ways to provide the most effective and highest quality of care at the lowest possible cost. Because VA operates the largest self-contained health care system in the U.S. and maintains a wealth of data, it is uniquely positioned to examine issues related to oral health and the delivery of dental care. Oral health research by HSR&D is making tremendous strides in answering important questions about the delivery, cost-effectiveness, and quality of dental and oral health care. The research projects described below highlight some of HSR&D's achievements in this area.*

#### **Aging and oral health are focus of long-term HSR&D study**

During the past 25 years, HSR&D's Dental Longitudinal Study has contributed greatly to the understanding of oral health among elderly people, debunking numerous myths in the process. For example, it is now recognized that declining oral health is not a natural consequence of aging. Instead, certain medical conditions, behavioral factors and patterns of care appear to be more important variables in determining oral health. Researchers are continuing their work in the hope of devising better prevention and treatment strategies for high-risk patients.

*Kressin N, Spiro A 3<sup>rd</sup>, Bosse R, et al. Assessing oral health-related quality of life: findings from the normative aging study. Medical Care, 34:416-427, 1996.*

#### **HSR&D researchers identify impact of behavioral factors on oral health**

Personality and nutrition appear to play an important role in oral health status, according to this ongoing study, which is funded by the National Institute of Dental Research and is based on data from HSR&D's Dental Longitudinal Study (DLS). For example, researchers found that elderly people who are extroverted are much more likely to brush and floss their teeth regularly than people who are not. Findings such as these are expected to contribute greatly to improving oral health among elderly veterans. In addition, tools are being developed to assess patients' perceptions of how their oral health affects various functional outcomes.

#### **HSR&D project links primary care and oral health issues for geriatricians**

This HSR&D project examines primary care issues that integrate smoking, dentistry, and medicine to develop a knowledge base that will guide the primary care oral health practices of geriatricians. One study has found, for example, that a two-hour oral health intervention program can significantly improve the oral health knowledge and attitudes of medical students.

## Quality

*Quality is a multi-faceted area of investigation that can include outcomes research; practice guideline development; risk adjustment; patient satisfaction, functional and health status measurement; and other types of initiatives. Research by HSR&D has made major contributions to improving the quality of VA health care. HSR&D projects have examined issues specific to the care of elderly veterans, veterans with mental illnesses and substance abuse problems, the quality of ambulatory care, and the quality of care for specific diseases that are prevalent among veterans, including prostate cancer, chronic obstructive pulmonary disease, and heart disease.*

*“Quality” care needs to be defined (and periodically redefined, based on new scientific evidence), focused on the patient, implemented, routinely assessed, and promoted. VA research, especially health services research, is critical to supporting the provision of quality health care to American veterans. The following projects demonstrate HSR&D’s ongoing commitment to this goal.*

### **Hospital “firms” can improve care management**

Hospitals can combat care fragmentation by establishing firms, institutionally based groups of patients, providers and support staff similar to multispecialty group practices, according to VA researchers. At the Cleveland VA, each firm follows its patients throughout their association with the hospital, ensuring a productive long-term relationship between patients and providers.

*Landefeld CS, Aucott J. Improving primary care in academic medical centers. The role of firm systems. Medical Care, 33:311-314, 1995.*

### **Study calls into question effects of service regionalization**

In a study that holds important policy implications, HSR&D researchers found that regionalization of health care technology may restrict patient access to needed services and to equally good medical care. The researchers observed that heart attack patients initially admitted to hospitals without on-site cardiac services had higher mortality rates and were less likely to undergo cardiac procedures than patients admitted to hospitals with on-site cardiac services.

*Wright SM, Daley J, Peterson ED, et al. Outcomes of acute myocardial infarction in the Department of Veterans Affairs: does regionalization of health care work? Medical Care, 35:128-141, 1997.*

### **Researchers examine how computerized reminders affect outpatient care**

HSR&D is currently conducting the largest study ever done of the impact of computer-generated clinical reminders on ambulatory care practices. It is expected that the findings from this study will be helpful in building practitioner consensus around standards of care. VA already has adopted the scannable encounter forms used in this study as the preferred method of data collection among all VA outpatient clinics.

### **Results of surgical risk study will support quality improvement activities**

The National VA Surgical Risk Study, funded collaboratively by HSR&D and VA’s Office of Quality Management, will play an important role in VA’s efforts to improve the quality of surgical practice throughout its system. Researchers are working to design patient-related variables that significantly affect outcomes of surgical care – devising a sound risk-adjustment methodology that will support quality improvement efforts.

*Khuri SF, Daley J, Henderson W, et al. The National Veterans Surgical Risk Study: a risk adjustment for the comparative assessment of the quality of surgical care. Journal of the American College of Surgeons, 180:519-531, 1995.*

### **Study supports the validity of risk-adjusted outcomes from the National Veterans Affairs Surgical Risk Study**

This study tested the validity of risk-adjusted rates of surgical mortality and morbidity from the National Veterans Affairs Surgical Risk Study by comparing the risk-adjusted rates of twenty surgical services with independent expert assessments of the services' structure and process. The quantitative assessments of overall quality, compiled by experts during site visits to the surgical services, was significantly higher for surgical services with lower-than-expected rates of mortality and morbidity than it was for surgical services with higher-than-expected rates of mortality and morbidity.

*Daley J, Forbes M, Young G, et al. Validating risk-adjusted surgical outcomes: site visit assessments of process and structure. Journal of the American College of Surgeons, In Press.*

### **Service coordination improves outcomes for surgery patients**

Coordination plays an important role in the outcomes of surgery patients, according to findings from the National VA Surgical Risk Study. Researchers observed that hospitals with low risk-adjusted mortality and morbidity ratios fostered high levels of interaction among different types of surgical staff at both the administrative and patient care levels. These results will be used to identify opportunities for improving surgical care through increased collaboration and communication.

*Young G, Charns MP, Daley J, et al. Best practices for managing surgical services: the role of coordination, Health Care Management Review, In Press, 1977.*

### **Surgical quality improvement program aims to identify best practices**

Good risk adjustment is critical to efforts to accurately assess quality of care among hospitals. A collaborative effort of HSR&D and VA's Office of Quality Management, the National VA Surgical Quality Improvement Program is a unique study that is gathering data from 123 VA medical centers on patient-specific factors that affect post-surgical mortality and morbidity. In this way, VA will be able to differentiate high-quality from low-quality providers and identify best practices to improve care. This data currently is being used by chiefs of surgery throughout the VA system and by VISN directors to monitor quality of care.

### **New survey incorporates functional assessment into VA outcome measurement efforts**

Functional status, which describes a person's capacity for performing everyday activities, is an important focus of VA's efforts to measure health care value. The SF-36V, a short-form health assessment tool modified especially for veterans as part of the ongoing Veterans Health Study, is one of the measures that will be used to set VISN performance measures. More than 42,500 veterans were surveyed using the SF-36V last fall, and the results will be used to provide baseline values for VISNs and describe case-mix differences across hospitals. They also may be used to allocate VA resources more efficiently. The survey will be repeated annually.

*Kazis LE, Clark J, Miller DR, et al. A modified version of a short form health survey for assessing health related quality of life in veterans: the Veterans Health Study. AHSR FHSR Annual Meeting Abstract Book, 11:14-15, 1994.*

### **Collaborative care model achieves outcomes on par with usual care**

A nursing-based collaborative care model was developed as a way to provide acute hospital care without relying on routine services provided by resident physicians in teaching hospitals. This study demonstrated that outcomes of collaborative care were similar to outcomes of usual care provided by resident physicians.

*Lott TF, Blazey ME, West MG. Patient participation in health care: an underused resource. Nursing Clinics of North America, 27:61-76, 1992.*

### Health promotion clinic tripled preventive care activities

Preventive services are an important aspect of health care, yet the levels at which they are provided remain unacceptably low. In this study, a health promotion clinic which patients were invited to attend tripled the rate of prevention activities. Health services researchers found that the clinic was popular with patients, bypassed gatekeeper barriers, and was reasonable in cost. This work was incorporated into the recommendations of a joint U.S.-Canadian task force on preventive services and has had a major impact on the promotion of preventive care.

*Belcher DW. Implementing preventive services: success and failure in an outpatient trial. Archives of Internal Medicine, 151:2484-2485, 1991.*

### Recommendations aim to improve chart review

Review of hospital charts is a tried-and-true method for assessing quality of care. HSR&D researchers in Houston produced a critical evaluation of chart review as a quality assessment tool, with recommendations for how to improve the quality of the data obtained.

*Wu L, Ashton CM. Chart review: a need for reappraisal. Evaluation & The Health Professions, 20:146-163, 1997.*

### Mortality is a poor indicator of hospital quality

Hospitals throughout the country are engaged in performance measurement and “report card” initiatives. This HSR&D study shows that such efforts must be approached carefully. It found that diagnosis-specific mortality rates do not accurately identify hospitals that provide poor-quality medical services. In fact, this rating method may unfairly target some providers as low-quality and accurately identify only very few of the poor-quality hospitals. This study demonstrates the importance of using reliable indicators when measuring health care quality.

*Hofer TP, Hayward RA. Identifying poor-quality hospitals: can hospital mortality rates detect quality problems for medical diagnoses? Medical Care, 34:737-753, 1996.*

### Case-mix adjustment is critical when evaluating outpatient medical care

Valid quality assessment of ambulatory care requires a reliable method of adjusting for patient differences. Otherwise, outcomes data are meaningless. This study identified predictors of poor outcomes among patients with hypertension, diabetes, and chronic obstructive pulmonary disease. Project researchers are now using risk-adjusted diagnostic information from VA databases to try to predict resource utilization in outpatient settings.

*Berlowitz DR, Rosen A, Moskowitz MA. Ambulatory care case-mix measures. Journal of General Internal Medicine, 10:162-170, 1995.*

### Administrative databases often lack information on hospital complications

In-hospital complications frequently are not recorded in administrative databases, VA researchers found. This study highlights the difficulties of obtaining accurate and comprehensive data needed to perform reliable quality assessments.

*Geraci JM, Ashton CM, Kuykendall DH, et al. International classification of diseases, 9<sup>th</sup> revision, clinical modification codes in discharge abstracts are poor measures of complication occurrence in medical patients. Medical Care, 35:589-602, 1997.*

### VA database targeted for more cost-effective data collection

Maintaining a good, up-to-date administrative database for quality assessment purposes is time-consuming and expensive. This HSR&D study is seeking to identify ways to make data collection for VA's Patient Treatment File database more cost-effective.

## HEALTH SYSTEMS

### **Administrative databases can be put to better use**

Large administrative databases, which are maintained by all health care organizations, including VA, contain information on thousands of patients and are relatively inexpensive to use. However, their applications for quality assessment purposes are limited. In this HSR&D project, researchers identified ways to improve the usefulness of these databases in assessing quality of care.

Wray NP, Ashton CM, Kuykendall DK. *Using administrative databases to evaluate the quality of medical care: a conceptual framework. Social Science & Medicine, 33:75-89, 1995.*

### **Researchers design risk adjustment system for measuring hospital quality**

Efforts to compare quality of care among hospitals are meaningless unless they take into consideration important differences in the types of patients that are treated at those facilities. VA researchers developed and tested a system that adjusts for those differences, allowing valid comparisons to be made. This risk adjustment model is in the public domain, so the scientific community can use and assess its validity.

Wray NP, Hollingsworth JC, Petersen NJ, et al. *Case-mix adjustment using administrative databases: a paradigm to guide future research. Medical Care Review, In Press, 1997.*

### **New method guides development of quality-of-care criteria**

HSR&D researchers developed a simple, step-wise method for creating reliable and valid criteria to assess quality of care. Quality assessment personnel can use criteria developed through this method as a yardstick against which care can be compared.

Ashton CM, Kuykendall DK, Johnson ML, et al. *A method of developing and weighting explicit process of care criteria for quality assessment. Medical Care, 32:755-770, 1994.*

### **Hospital readmissions linked to poor care**

Early hospital readmission is often attributable to substandard care, this VA study demonstrated. By improving the processes of care, it may be possible to reduce readmission rates.

Ashton CM, Kuykendall DK, Johnson ML, et al. *The association between the process of inpatient care and early readmission. Annals of Internal Medicine, 122:415-421, 1995.*

### **Substandard care frequently is responsible for hospital complications**

In-hospital complications are often caused by poor care, according to this study, which focused on adverse drug events and hypoglycemic reactions in patients with lung disease and diabetes. As hospitals continue to struggle with limited resources, it is essential that quality improvement efforts focus on practices proven to promote better patient outcomes.

Geraci JM, Ashton CM, Johnson ML, et al. *Which complications should we monitor? The association of process of care and occurrence of three sets of in-hospital complications. Journal of General Internal Medicine, 12:71, 1997.*

## Economics of Healthcare

*In today's rapidly changing health care environment, VA must assess not only the costs of providing health care services, but the underlying financial reimbursement mechanisms and incentives that drive health care delivery. The goals are to assure fair and rational allocation of resources based on local needs and to provide care in the most cost-effective manner possible. These studies underscore HSR&D's efforts in this area.*

### **Study demonstrates cost savings of centralized income data collection system**

Nationwide implementation of the Data Collection Pilot Program (DCPP), which was designed to allow for centralized administration, collection, verification, storage, and retrieval of veterans' income tests, could save VA more than \$13 million, this analysis showed. This evaluation report boosted DCPP request for nationwide expansion, which was approved, allowing DCPP to begin centralized collection of veteran income information this year.

*McGann, M, Chapko M. Evaluation of Veterans Health Administration's Data Collection Pilot Project. Management Decision and Research Center. September, 1996.*

### **Research points to advantages of prime vendors for pharmaceutical purchasing**

A series of HSR&D studies has had an important impact on VA pharmacy procurement policy. As a result of these studies, all VAMCs now use a prime vendor to obtain pharmaceuticals, several use prime vendors to obtain frozen and canned foods, and VA has closed all depot-based pharmaceuticals in favor of prime vendors.

*Weaver F, Kubal J, Bonarigo F, et al. Improving the efficiency of VA pharmacy procurement using a prime vendor system. Journal of Research in Pharmaceutical Economics, 6:45-56, 1995.*

### **Study shows compensation of VA physicians and dentists is not competitive**

Compensation is an important issue to VA in the recruitment and retention of physicians and dentists. This report by Midwest Center for Health Services and Policy Research showed that compensation of VA physicians and dentists lagged behind inflation and the competition, at times markedly. Significant pay compression persists. Recommendations in this report include further improvement in pay schedules for better recruitment and retention.

### **HSR&D assessment focuses on picture archiving and communications systems**

Many VA medical centers are considering whether to install "filmless" radiology image acquisition and storage systems. This soon to be released HSR&D literature review and evaluation is assessing time savings, decreased number of lost or misplaced imaging studies, enhanced diagnostic accuracy, improved patient outcomes, and more efficient use of resources. Researchers are also delineating an approach to cost and work process analysis that will further help VAMCs that are considering these systems.



# WOMEN VETERANS

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*Women constitute a small but rapidly growing segment of VA's patient population. As a result, VA health care facilities have come under increasing pressure to transform themselves so that they can meet the needs of women veterans. Accordingly, HSR&D has expanded its efforts in women's health in a number of ways:*

- *supporting research to identify the specific health care needs of female veterans,*
- *establishing a national registry,*
- *strengthening outreach,*
- *facilitating access to care, and*
- *improving treatment for diseases and conditions that affect large numbers of women veterans, including breast cancer, reproductive health, sexual abuse, mental illness, post-traumatic stress disorder, and alcohol and substance abuse.*

*The following projects highlight some of these initiatives.*

### **Women veterans may require different services from male veterans**

Women veterans may benefit from different health services – for example, mental health and counseling services – than men, this study suggests. Results from the VA Women's Health Project, an ongoing HSR&D cross-sectional study into the health-related quality of life among women veterans, may have important implications as the number of women using VA care continues to increase.

### **Outreach increases use of screening mammography**

Screening mammography is an important tool for diagnosing and entering into treatment women veterans who have breast cancer, yet many women fail to get mammograms as recommended. Use of VA mammographic services increased by 50 percent after an HSR&D intervention consisting of a mailed informational brochure and a follow-up phone call by a health care provider to schedule a mammogram.

### **New study seeks ways to detect alcohol problems in women veterans**

Unrecognized alcohol abuse among women is a major public health problem. A new VA study has begun to develop methods to identify alcohol abuse among women veterans seen in primary care settings. The goal of this study is to promote the early detection and treatment of alcohol problems among female veterans.

### **VA research advances treatment of urinary tract infections**

Urinary tract infections affect up to 25 percent of young and middle-aged women, causing substantial discomfort, inconvenience and lost productivity. In this NIH funded study, HSR&D investigators identified optimal antibiotic regimens for treating this common infection and shed new light on important risk factors.

*Fihn SD, Johnson C, Roberts PL, et al. Trimethoprim/Sulfamethoxazole for acute dysuria in women: a single dose or 10 day course. A double-blind therapy randomized trial. Annals of Internal Medicine, 108:350-357, 1988.*

# NEW AND PLANNED INITIATIVES

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*As VHA undergoes dramatic changes in the organization and delivery of health care to our nation's veterans, the need for sound research on the effects of these changes is critical. HSR&D is undertaking a number of new initiatives to support VHA's ongoing efforts to ensure the highest quality of health care for veterans. The following section describes these new and planned initiatives.*

### **Managing Access to Improve Outcomes**

Access to VHA health care is affected by a variety of managerial and policy decisions, including eligibility criteria, clinical protocols, referral practices, staffing patterns, and service location and capacity. HSR&D will conduct a number of studies to explore practical questions about the effects of efforts to improve veterans access to VHA services.

### **The Interface of Managed Care and Primary Care**

VHA's adoption of specific managed care principles and practices, such as the emphasis on primary care, coordination of care, emphasis on evidence-based practice, and attention to practice variation, reflects greater emphasis on accountability to patients and taxpayers as well as the need to be competitive in the health care marketplace. Significantly, the trends toward more managed care and more primary care are proceeding simultaneously in VHA. These dual movements raise many questions about new relationships among key components of the health care system and have potentially dramatic effects on the outcomes of care. HSR&D will study how VHA's movement toward managed care affects important patient and system outcomes. The results of these studies will help guide the continuing changes in the VA system and will provide data essential for continuing efforts to monitor and manage change.

### **Implementation of Evidence-Based Clinical Practice Guidelines**

Evidence-based clinical practice guidelines are intended to facilitate and increase the use of clinical practices shown to be effective and to reduce the use of ineffective practices. Guidelines have enormous potential to improve the quality of care, reduce unnecessary costs, and reduce inappropriate variations in practice – if they are used correctly. HSR&D will evaluate alternative strategies for implementing evidence-based clinical practice guidelines in VHA health care and identify strategies that may be replicated system wide.

### **Understanding Ethnic and Cultural Variations in the Delivery of VA Health Services**

Ethnic and cultural variations in health care have been documented in veteran, Medicare, and general populations, but few studies have gone beyond simple *identification* of such variations. HSR&D studies will focus on more precise definitions of, underlying reasons for, and potential interventions for resolving issues that may result in the disparate treatment of patients. These studies also will address self-identity and individual perceptions that may influence the delivery of health care.

### **Gender Difference in Health Care and Improving Health Services for Women Veterans**

HSR&D will support additional research to increase outreach and access to health care, and to explore health issues that affect many women veterans, such as breast cancer, reproductive health, post-traumatic stress disorder (PTSD), sexual abuse, mental illness, alcohol and substance abuse. Expansion of services to women veterans and improvements in tracking of utilization and outcomes provide new opportunities for



## NEW AND PLANNED INITIATIVES

researching women's health issues in the veteran population. New HSR&D studies will explore gender differences in veterans health care or investigate problems identified in non-veteran female populations that have not been studied among female veterans.

### **Epidemiological Research and Information Centers**

As a research paradigm, epidemiology is well-suited for addressing the process and distribution of chronic diseases among various subgroups of veterans. However, the lack of established epidemiology research centers has hindered adoption of the *science* of epidemiology within VHA. The Office of Research and Development will establish one or more peer-reviewed Epidemiological Research and Information Centers (ERICs). These centers will address such issues as the use of risk assessment, surveillance and control techniques, and population-based epidemiological surveys that can be targeted toward selective health behaviors.

### **Developmental Projects in Health Services Research**

This new program builds upon the success of a previously completed initiative which funded 19 programs between 1991 and 1996 which improved the capacity to do health services research in VHA and supported VHA's clinical mission in many ways. In addition to the design and development of research projects, the programs also have spawned Centers for Health Services Research on minority health care issues (including African-Americans, Hispanics, and Native Americans) and the development of educational workshops (e.g., to teach clinicians how to effectively prepare health services research proposals).

### **Establishment of a New Health Services Research Field Program (Center of Excellence)**

Currently, the HSR&D Service supports nine Field Programs providing the infrastructure for health services research on organizational and patient care issues. These "Centers of Excellence" in selected health services research focus areas provide the primary means of enhancing VHA's technical expertise in this critical area of patient outcomes research. The ultimate goal of the Field Program is to enhance the efficiency and cost effectiveness of VHA's health care delivery system.

### **Patient-centered care: qualitative and quantitative research methods**

Providing high-quality cost-effective patient centered care is a critically important goal of VHA. HSR&D studies will examine both the subjective and objective dimensions of health care quality as experienced by the patient and the patient's family in their encounters with the VA health care system. These HSR&D studies are expected to produce new knowledge for improving the quality of VA health services and patients' satisfaction with those services.

**John R. Feussner, M.D.**  
**Chief Research & Development Officer (12)**  
**810 Vermont Avenue, NW**  
**Washington, D.C. 20420**  
**202.273.8284**

**Shirley Meehan, M.B.A., Ph.D.**  
**Acting Director,**  
**Health Services Research & Development Service (124A)**  
**810 Vermont Avenue, NW**  
**Washington, D.C. 20420**  
**202.273.8287**

